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LAND USE ELEMENT

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BEULAVILLE
NORTH CAROLINA

LAND USE ELEMENT

June, 1978

Prepared for: Beulaville, North Carolina

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State of North Carolina*

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I. INTRODUCTION

A. PURPOSE, SCOPE AND USE

The Town of Beulaville has prepared this Land Use Plan in order to meet the requirements of the Comprehensive Planning Assistance Program as amended by Congress through Title IV of the Housing and Community Development Act of 1974. The Act requires that: "Each recipient of assistance under this section shall carry out an ongoing comprehensive planning process which shall make provision for citizen participation pursuant to regulations of the Secretary where major plans, policies, priorities, or objectives are being determined." The Act also requires that the planning process shall involve the development of a comprehensive plan, and that this plan shall include a housing element and a land use element.

With these requirements in mind, the Town Board of Beulaville contracted with the Division of Community Assistance - North Carolina Department of Natural Resources and Community Development for assistance in preparing their Land Use Plan. Included in the plan is a survey of existing conditions within the Town, an analysis of the problems facing the Town and proposed solutions to alleviate the problems. The purpose of the plan is to aid the Town of Beulaville in making future land development decisions which will offer the citizens of Beulaville a better living environment.

The data necessary to prepare the plan was gathered in the Winter of 1977 through the Spring of 1978 from public input, town officials, observation and printed materials including the 201 Wastewater Facilities Plan for Beulaville prepared by Wiggins-Rimer and Associates and Boney and Associates; Land Potential Study - Duplin County, N.C., prepared by the North Carolina Department of Natural and Economic Resources; Community Facilities Study and Capital Improvements Program prepared by the North Carolina Department of Natural Resources and Community Development; and Soil Survey - Duplin County, North Carolina prepared by the Soil Conservation Service - United States Department of Agriculture.

The land use map is a classification of existing land uses within the Town into generalized categories and was prepared from a windshield survey.

B. DELINEATION OF STUDY AREA

Beulaville is situated in the eastern section of Duplin County which is one of nine counties comprising State Planning Region P. Duplin County is a rural/agricultural county with tobacco, corn and soybeans as its chief agricultural products. Poultry farming is rapidly becoming a major industry in the county. Beulaville serves as a farm trading center for the surrounding rural area, offering a variety of farm supplies plus providing milling facilities.

The Beulaville town limits follows a rectangular shape consisting of approximately 1.2 square miles. The Town is intersected by N.C. Highways 24, 41 and 111. Beulaville is located approximately 115 miles from Raleigh, 55 miles from Wilmington and 45 miles from the coast at Topsail Beach.

The 1970 census listed Beulaville as having a population of 1,156.

C. ANALYSIS OF EXISTING PLANS, POLICIES AND REGULATIONS

A Zoning Ordinance was prepared for the Town of Beulaville in 1970 by the League of Municipalities, however it is not strictly enforced. Building permits are required for new construction, but a building code is not enforced.

A 201 Wastewater Facilities Plan was prepared for Beulaville by Boney and Associates and Wiggins-Rimer and Associates in 1975. The plan was prepared in accordance with the Federal Water Pollution Control Act of 1972 to provide the area with "a comprehensive, cost-effective and environmentally sound master plan for wastewater collection and disposal which can be implemented in an orderly manner."*

*Beulaville 201 Wastewater Facilities Plan, Wiggins-Rimer and Associates - Boney and Associates, 1975.

II. DATA COLLECTION AND ANALYSIS

The data necessary to identify existing conditions, trends and future conditions has been assimilated in the following sections. The data includes facts on the Beulaville physical environment, social and cultural conditions and economic conditions.

A. PHYSICAL ENVIRONMENT

Included in the physical environment of Beulaville are both the natural environment and the man-made environment.

1. Natural Environment

a. Climate

Beulaville lies within a temperate climate characterized by long, warm summers and short, mild winters. The Atlantic Ocean on the east, helps to reduce daily and seasonal temperature fluctuations. The Appalachian Mountains act as a barrier against eastward moving cold air masses.

Rainfall is plentiful and well distributed throughout the year. Snow and ice are uncommon in the area. The average annual temperature is 63°F and the mean annual precipitation is 50 inches.

A weather monitoring station is located at Kenansville, North Carolina which is approximately 12 miles west of Beulaville.

The following table lists the mean temperature and precipitation for each month during 1974 recorded at the Kenansville Weather Monitoring Station.

TABLE I. CLIMATOLOGICAL SUMMARY

<u>1974 Month</u>	<u>Temperature (F) Mean Average</u>	<u>Precipitation (in.) Mean Average</u>
January	53	3.5
February	45	4.2
March	56	5.1
April	61	3.4
May	68	7.2
June	73	3.5
July	77	11.1
August	76	9.4
September	72	3.3
October	59	1.1
November	52	2.2
December	45	5.8

Source - National Oceanic and Atmospheric Administration

b. Geology

Located within the Coastal Plains, Beulaville overlies the Wicomico Terrace, characterized locally as a topographic divide dissected by tributaries of the limestone and muddy creek. Sedimentary materials recent to cretaceous in age occur from land surface to six hundred feet below land surface, where basement crystalline rock is encountered. This six hundred foot thickness of sedimentary material consists of alternating sequences of sand, sandstones, clays, and mixtures of sand and clay.

The materials are categorized into geological formations to include the Post-Cretaceous formations from land surface to approximately 80 feet below land surface (bls), the Pee Dee Formation from 80 to 180 feet bls, the Black Creek Formation from 180 to 480 feet bls, the Tuscaloosa (Middendorf) Formation from 480 to 630 feet bls, and crystalline basement rock at 630 feet bls (USGS Professional Publication 796).*

c. Soil Types and Characteristics

There are four soil associations within the town limits of Beulaville. A soil classification map is included with this report. Listed below is each soil association found in

*Richard Shiver, Regional Hydrologist, North Carolina Department of Natural Resources and Community Development, Wilmington, North Carolina

Beulaville with a brief description.

- Goldsboro-Norfolk - This association accounts for 20 percent of the land area in Duplin County. For residential purposes this association has severe to slight limitations. Agricultural uses are suited to these types of soils as is light industry which would have moderate to slight limitations for recreational purposes.
- Kenansville-Wagram - This association accounts for 25 percent of the lands in Duplin County. This soil has slight limitations for residential and industrial uses and moderate limitations for recreation. This association is also basically good for agricultural uses.
- Rains-Lynchburg-Goldsboro - This association accounts for 18 percent of Duplin County's land area. This association has moderate to severe limitations on residential and industrial uses. The soil is good for agricultural uses but limited for recreation.
- Johnston-Bibb-Lumbee - Fifteen percent of Duplin County's land area is composed of this association. This association has severe limitations for all uses.

d. Topography

Duplin County lies entirely within the Coastal Plains of North Carolina. The northwestern part of the county is in the middle Coastal Plain; the southern and eastern part are in the lower Coastal Plain. The boundary between the two parts runs generally from southwest to northeast. Beulaville lies within the lower Coastal Plain section. Throughout the county slopes rarely exceed 5 percent. In the Beulaville area, the land is nearly level. The lowest elevation in Duplin County is 20 feet above sea level and is located in the southern portion of the county where the Northeast Cape Fear River flows out of the county. The highest elevation is 167 feet above sea level located at Bowden. Beulaville's elevation is 94 feet above sea level.

Because of the relatively flat topography much of the area is poorly drained. Even well-drained soils become very wet

Soil Interpretations
General Soil Map
Duplin County, North Carolina

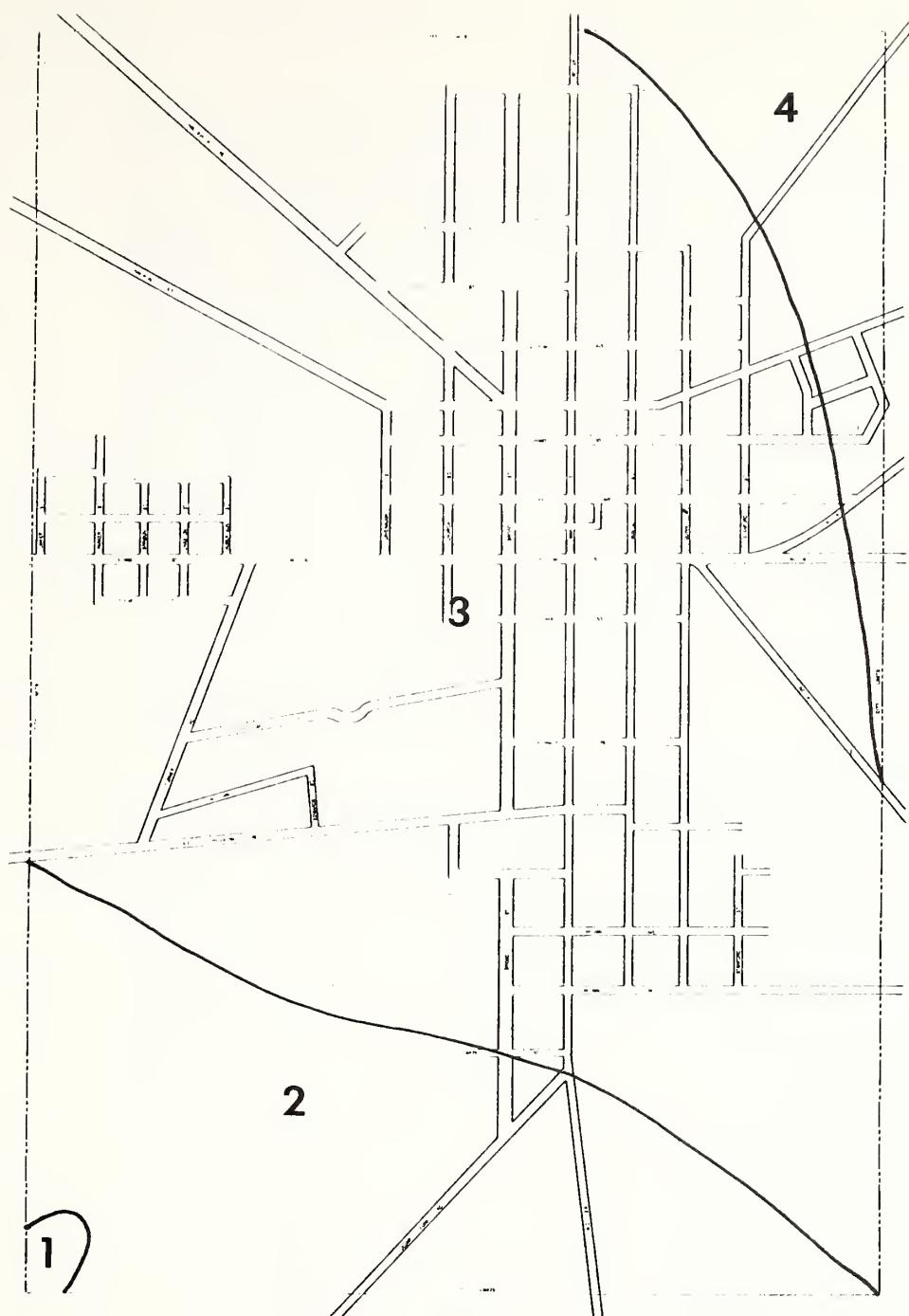
Soil Associations % in Assoc.	LIMITATIONS FOR										SUITABILITY FOR General Agriculture Roads and Streets 1/ Light Industries 1/ Intensive Play Areas Picnic Areas Camp Sites Septic Tank Filter Fields	
	Dwellings with					Recreation						
	Sewage Systems	Septic Tanks	Tank Fields	Camp Sites	Intensive Play Areas	Light Industries 1/ Streets 2/ Industrial Buildings						
* Goldsboro-Norfolk (20% of County)	Goldsboro Norfolk	30	Silt.	Sev. (Wt) Slt.	Slt.	Mod. (Wt) Slt.	Slt.	Mod. (Wt) Slt.	Mod. (Wt) Slt.	Mod. (Wt) Slt.	Good Good	
* Kenansville-Wagram (25% of County)	Kenansville Wagram	35	Slt.	Slt.	Mod. (Wt) Sandy Surface Texture	Mod. (Wt) Sandy Surface Texture	Mod. (Wt) Slt.	Mod. (Wt) Slt.	Mod. (Wt) Slt.	Mod. (Wt) Slt.	Fair Good	
Rains-Lynchburg-Goldsboro (18% of County)	Rains Lynchburg Goldsboro	30	Sev. (Wt) Mod. (Wt) Slt.	Sev. (Wt) Mod. (Wt) Slt.	Sev. (Wt) Mod. (Wt) Slt.	Sev. (Wt,Traf) Mod. (Wt,Traf) Slt.	Fair to Good Good					
Portsmouth-Torhunta (19% of County)	Portsmouth Torhunta	35	Sev. (Wt)	Sev. (Wt)	Sev. (Wt,Traf)	Sev. (Wt,Traf)	Sev. (Wt,Traf)	Sev. (Wt,Traf)	Sev. (Wt,Traf)	Sev. (Wt,Traf)	Fair to Good Good	
* Johnston-Bibb-Lumbbee (15% of County)	Johnston Bibb Lumbbee	30	Sev. (F1,Wt)	Sev. (F1,Wt)	Sev. (F1,Wt, Traf)	Sev. (F1,Wt, Traf)	Sev. (F1,Wt, Traf)	Very Sev. (F1, Wt,Traf)	Sev. (F1,Wt)	Sev. (F1,Wt)	Poor Good	
Leon-Lynn Haven (9% of County)	Leon Lynn Haven	40	Sev. (Wt)	Sev. (Wt)	Sev. (Wt,Traf)	Sev. (Wt,Traf)	Sev. (Wt,Traf)	Sev. (Wt)	Mod. (Wt)	Poor (Prod.)	Poor (Prod.)	
Pamlico (1% of County)	Pamlico	85	Sev. (Wt) Organic Soil	Sev. (Wt) Organic Soil	Sev. (Wt,Traf) Organic Soil	Sev. (Wt,Traf) Organic Soil	Sev. (Wt,Traf) Organic Soil	Sev. (Wt)	Sev. (Wt, Shr-Sw) Organic Soil	Sev. (Wt, Shr-Sw) Organic Soil	Poor to Good 3/	

Abbreviations for Limiting Factors:

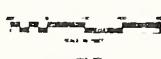
- F - Flood hazard
- Wt - Water Table
- Traf - Trafficability
- Shr-Sw - Shrink-swell potential
- Rock
- Percolation rate
- Corrosion potential
- Traffic supporting capacity
- Productivity
- Available water capacity

Abbreviations for degree of limitations:

- Slt. - Slight
- Mod. - Moderate
- Sev. - Severe
- Slopes > 10% impose limitations; 10-15% - Mod.; 15%+ - Sev.
- Slopes > 10% impose limitations; 10-15% - Mod.; 15%+ - Sev.
- Slopes > 6% impose limitations; 6-10% - Mod.; 10%+ - Sev.
- Slopes > 6% impose limitations; 6-10% - Mod.; 10%+ - Sev.
- Structures whose footings are in subsoil.
- Refers to roads and streets that have subsoil for base.
- Depends on thickness of the organic layer and acidity.



BEULAVILLE
NORTH CAROLINA



SOILS CLASSIFICATION MAP

1. Johnston-Bibb-Lumbee
2. Goldsboro-Norfolk
3. Rains-Lynchburg-Goldsboro
4. Kenansville-Wagram

during very rainy periods.

The land surface of Duplin County is comprised of four marine terraces - the Coharie, Sunderland, Wicomico and Chowan. Beulaville lies within the Wicomico terrace. This terrace is drained by the Northeast Cape Fear River and its tributaries. The topography is youthful and differences in elevation between stream bottoms and the adjacent uplands are slight. The surface of this terrace consists of unconsolidated clays, sands and gravel.

e. Surface Water

There is only one stream which flows within the Beulaville town limits: Muddy Creek. This stream originates in the southeastern corner of the town and flows into the Northeast Cape Fear River.

Rivers and streams in North Carolina are classified by the North Carolina Department of Natural Resources and Community Development - Office of Environmental Management according to their usage. Muddy Creek is classified as a Class "C" Stream. Below is a list of the classifications of fresh surface water and the standards of water quality for each classification.

(1) Class A-I Waters

- Best Usage - Source of water supply for drinking, culinary, or food processing purposes or any other usage requiring waters of lower quality.
- Conditions related to best usage - This class is intended primarily for waters having watersheds which are uninhabited and otherwise protected as required by the Division of Health Services and which require only approved disinfection, with additional treatment when necessary to remove naturally present impurities, in order to meet the "Public Health Service Drinking Water Standards" and will be considered safe for drinking, culinary, and food processing purposes.

(2) Class A-II Waters

- Best Usage of Waters - Source of water supply for drinking, culinary, or food-processing purposes and any other best usage requiring waters of lower quality.
- Conditions Related to Best Usage - The waters, if subjected to approved treatment equal to coagulation, sedimentation, filtration and disinfection with additional treatment if necessary to remove naturally present impurities, will meet the "Public Health Service Drinking Water Standards" and will be considered safe for drinking, culinary, or food-processing purposes.

(3) Class B Waters

- Best Usage of Waters - Bathing and any other best usage except as a source of water supply for drinking, culinary or food-processing purposes.
- Conditions Related to Best Usage - The waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor bathing places and will be considered satisfactory for bathing purposes. Also, suitable for other uses requiring waters of lower quality.

(4) Class C Waters

- Best Usage of Waters - Fishing, boating, wading and any other usage except for bathing or as a source of water supply for drinking, culinary or food-processing purposes.
- Conditions Related to Best Usage - The waters will be suitable for fish and wildlife propagation. Also, suitable for boating, wading, and other uses requiring waters of lower quality.

f. Groundwater

Beulaville relies exclusively on groundwater resources to supply all water needs. Hydrogeologically, two aquifer systems underlie Beulaville. The first aquifer encountered

below land surface is the unconfined, or water table, aquifer. The unconfined aquifer occurs everywhere, and is composed of sand which stores water under atmospheric pressure. Rainfall, which infiltrates downward into the unconfined aquifer, is the principal source of recharge. Once in the unconfined aquifer, water then flows from upland areas into streams, under the influence of gravity. Although containing generally satisfactory quantity and quality water, probably the unconfined aquifer has not been used as a source supply since construction of the municipal water system.

Occurring below the unconfined aquifer is the cretaceous aquifer system, which is the source of municipal water for Beulaville. Cretaceous sands contain large volumes of excellent quality water under artesian conditions. The cretaceous aquifer system receives recharge in areas generally north of Beulaville, and also receives recharge from the overlying unconfined aquifer. Water within the aquifer systems flows naturally in a southeasterly direction, toward the Atlantic Ocean.

Two municipal wells approximately four hundred feet deep, and exposed to the cretaceous aquifer system, provide satisfactory quality and quantity water to meet present demand. The future construction of additional municipal wells to satisfy a reasonable increase in water demand should pose no problem to the town of Beulaville*.

g. Rare and Endangered Species Habitats

There are no rare and endangered species habitats within the town limits of Beulaville.

h. Animal Life and Fish

The wildlife found in and around Beulaville is commonly found throughout the State. Animals found in the area include deer, rabbits, racoons, opossums and squirrels.

*Richard Shiver, Regional Hydrologist, North Carolina Department of Natural Resources and Community Development, Wilmington, North Carolina

Birds found in the area are owls, song birds, crows, peregrine falcon, ducks, and turkeys.

There is only one stream within the Beulaville town limits: Muddy Creek. Therefore the number of fish in the area is limited. The most common fish found in the area is the yellow bullhead, so it is assumed that this fish would be found in Muddy Creek.

i. Plant Life

The plant life found in Beulaville is typical of the plant life found throughout the lower Coastal Plain of North Carolina. The plant life includes: loblolly pine, Walnut, white oak, gum, poplar, willow oak, ash, elm, dogwood, Venus Fly-Trap, and flowering dogwood.

j. Air Quality

Air quality in the State is monitored by the North Carolina Department of Natural Resources and Community Development - Air Quality Section. There is no monitoring station in Beulaville. The closest station was located in Kenansville, which is 12 miles away. The following chart examines the data collected at the Kenansville station from 1972 through 1976 by the Air Quality Section - North Carolina Department of Natural Resources and Community Development.

TABLE 2. NORTH CAROLINA AIR QUALITY DATA
1972 - 1976 Annual Means, g/m³
Kenansville, North Carolina Station

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>State Standard</u>
Suspended particulates	34	44	30	34	42	60
Sulfur Dioxide	5	5	5	5	5	80
Nitrogen Dioxide	21	11	13	12	11	100

Beulaville and Kenansville are thought to be homogeneous enough to presume that air quality would be nearly the same for both towns. The Kenansville Station is well below the established air quality standards. There appear to be no air quality problems or reasons to limit development.

2. Man-made Environment

a. Land Use

The information presented in this section is the result of a windshield survey conducted by the Division of Community Assistance of the North Carolina Department of Natural Resources and Community Development during the winter of 1977. A general land use map of Beulaville is included in this report. A detailed land use map can be seen at the Beulaville Town Hall.

i. Detailed Land Use

There are 775.36 acres of land within the corporate limits of Beulaville. For planning purposes, the land within the Town limits has been divided into seven different categories. The following table lists each land use category, its acreage and percent of the total.

TABLE 3. EXISTING LAND USE

<u>Land Use Categories</u>	<u>Acreage</u>	<u>Percent</u>
Residential		
Single-Family	98.05	13 %
Multifamily	3.44	.4%
Trade	20.09	2.6%
Manufacturing	5.3	.7%
Services	21.79	2.9%
Recreation	2.31	.4%
Transportation, Communication and Utilities	82.15	11 %
Agriculture/Vacant	542.23	69 %
TOTAL	775.36	100 %

Residential

For this study, residential land use has been subcategorized into single-family and multifamily. On the detailed existing land use map in the Beulaville Town Hall, single-family residential is represented by the color yellow and multifamily residential is represented by orange. Included within the single-family category are

mobile homes. At the time of this survey, there were twelve mobile homes scattered throughout town and seven mobile homes situated in a mobile home park located in the western section of town.

Most of the new residential development within town has concentrated around the southern outskirts of town along the Hallsville Road and the Old Chinquipin Road.

Trade

The trade category accounts for 2.6% of the land use in Beulaville. It is represented by the color red on the detailed land use map in the Beulaville Town Hall. This category includes such uses as clothing stores, furniture stores, eating and drinking establishments, etc. The majority of the land devoted to this category is located along Main Street and along Jackson Street at the intersection of Main Street.

Manufacturing

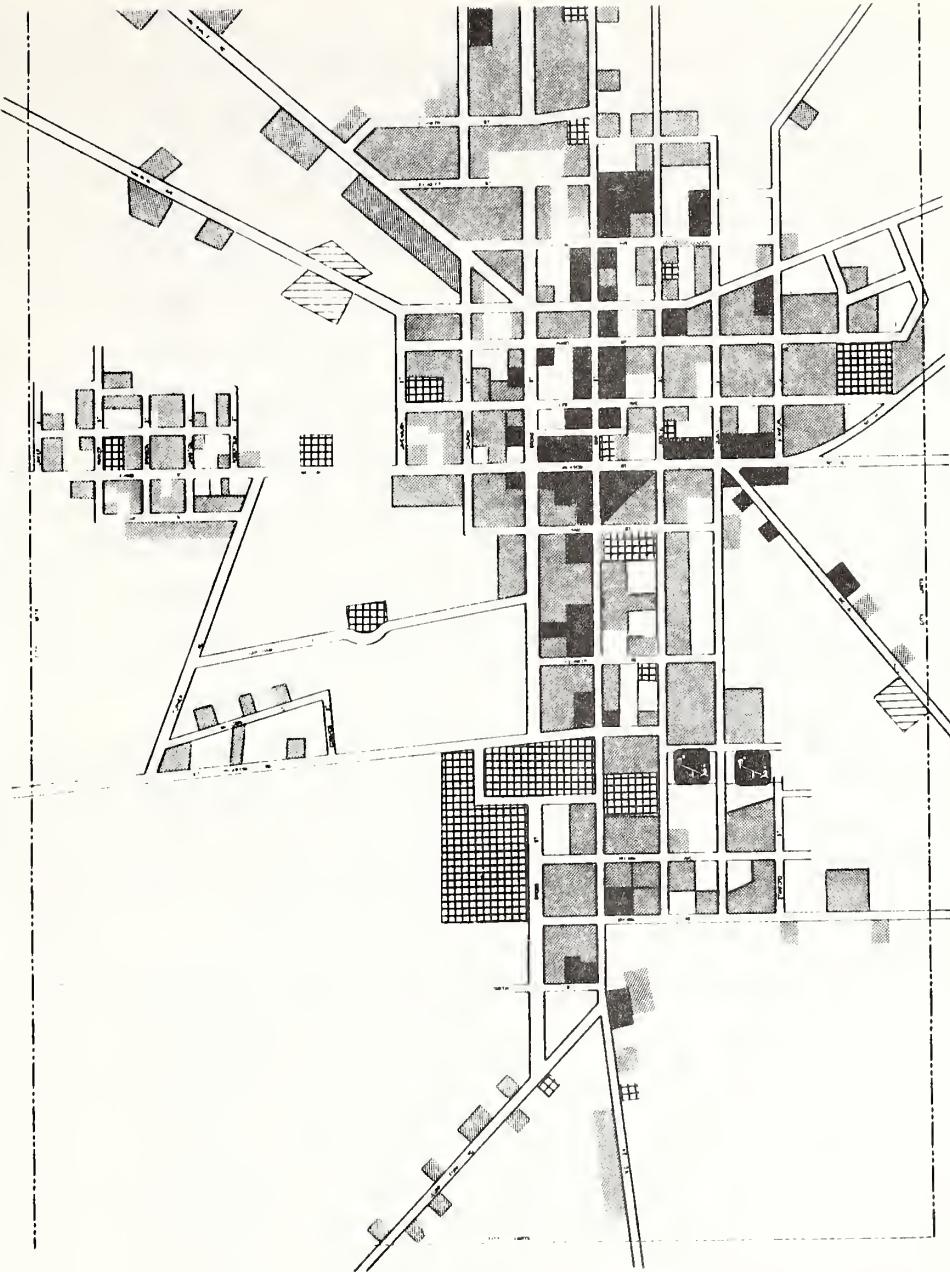
Manufacturing accounts for only 5.3 acres of land or .7% of the total land area with the town limits. This category includes the feed mill located on Railroad Avenue and the Garment Factory located on NC 41.

Services

The Services category, blue on the map, includes such things as banks, schools, churches and governmental services. This category accounts for 2.9% of the total land in Beulaville. The Services are not concentrated in any one area, but rather scattered throughout the Town.

Recreation

The amount of space devoted to recreation is very limited. The 2.31 acres of recreational land is occupied by a municipal park located on Park Street. Tennis courts and basketball courts are located in the park. The only other recreational land is situated on the Beulaville Elementary School Property. On weekends and during the summer, residents have the use of the baseball field which is part of the school property. A skating rink, located just



GENERALIZED EXISTING LAND USE MAP



BEULAVILLE
NORTH CAROLINA



- | | |
|-----------------------------|--------------------|
| [Residential symbol] | Residential |
| [Trade symbol] | Trade |
| [Manufacturing symbol] | Manufacturing |
| [Services symbol] | Services |
| [Recreation symbol] | Recreation |
| [Agriculture/Vacant symbol] | Agriculture/Vacant |

outside the town limits on Old Chinquepin Road, is also available for use by the residents of Beulaville.

Transportation, Communication and Utilities

The 82.15 acres of land under the Transportation, Communication and Utilities Category is occupied by streets and street right of ways. Of the total amount of acreage devoted to streets, approximately 20 acres or 24% of the total are dirt streets.

Agriculture/Vacant

Land used for agricultural purposes and vacant land have been grouped together due to the fact that it is hard to distinguish between the two. Beulaville is located in a farming area with farm land actually located within the town limits. (The majority of the agricultural land is found in the southern section of town.) Sixty-nine percent or 542.23 acres of the total land area is occupied by the Agriculture/Vacant category. There is ample room for future expansion within the town limits.

ii. Housing Conditions

A windshield survey in 1978 of the housing conditions within Beulaville revealed that the majority of the houses are in good condition. The houses surveyed, were rated according to exterior structural conditions into one of three classifications:

Standard - Structures which have no defects or only slight defects which are correctable during regular maintenance.

Deteriorated - Structures having defects which require major repair to prevent further deterioration.

Dilapidated - Structures which are unfit and unsafe for human occupancy. Such housing has one or more critical defects which are beyond economical repair.

Of the 371 houses surveyed, 294 are considered to be in standard condition, 61 in deteriorated condition and 16 in dilapidated condition. Most of those houses in dilapidated condition are concentrated in the southern section of town in the neighborhood around N.C. Highway 41 entering Town.

TABLE 4. HOUSING CONDITIONS

<u>Condition</u>	<u>Number</u>	<u>% of Total</u>
Standard	294	79.2%
Deteriorated	61	16.4%
Dilapidated	16	4.4%
<hr/>		
TOTAL	371	100%

*Does not include mobile homes.

One conclusion reached as a result of the windshield survey is that most of the homeowners in Beulaville are conscientious about their homes appearance and condition. It also appears that many of the new homes constructed are locating in the outskirts; this trend is expected to continue.

More detailed housing information can be found in the Beulaville Housing Element.

b. Community Facilities

i. Water Supply Systems*

The Town of Beulaville is served by a central water system which is owned and maintained by the Town. The water distribution and treatment system for Beulaville is completely metered, with approximately 488 connections serving an estimated user population of 1,200 people. The service area for the water distribution system includes 100 percent of the corporate limit area. The system was constructed in 1954, and there have been no major alterations or additions made to the system since that time, except for the overhaul of the main pumps which was in progress during the spring of 1977.

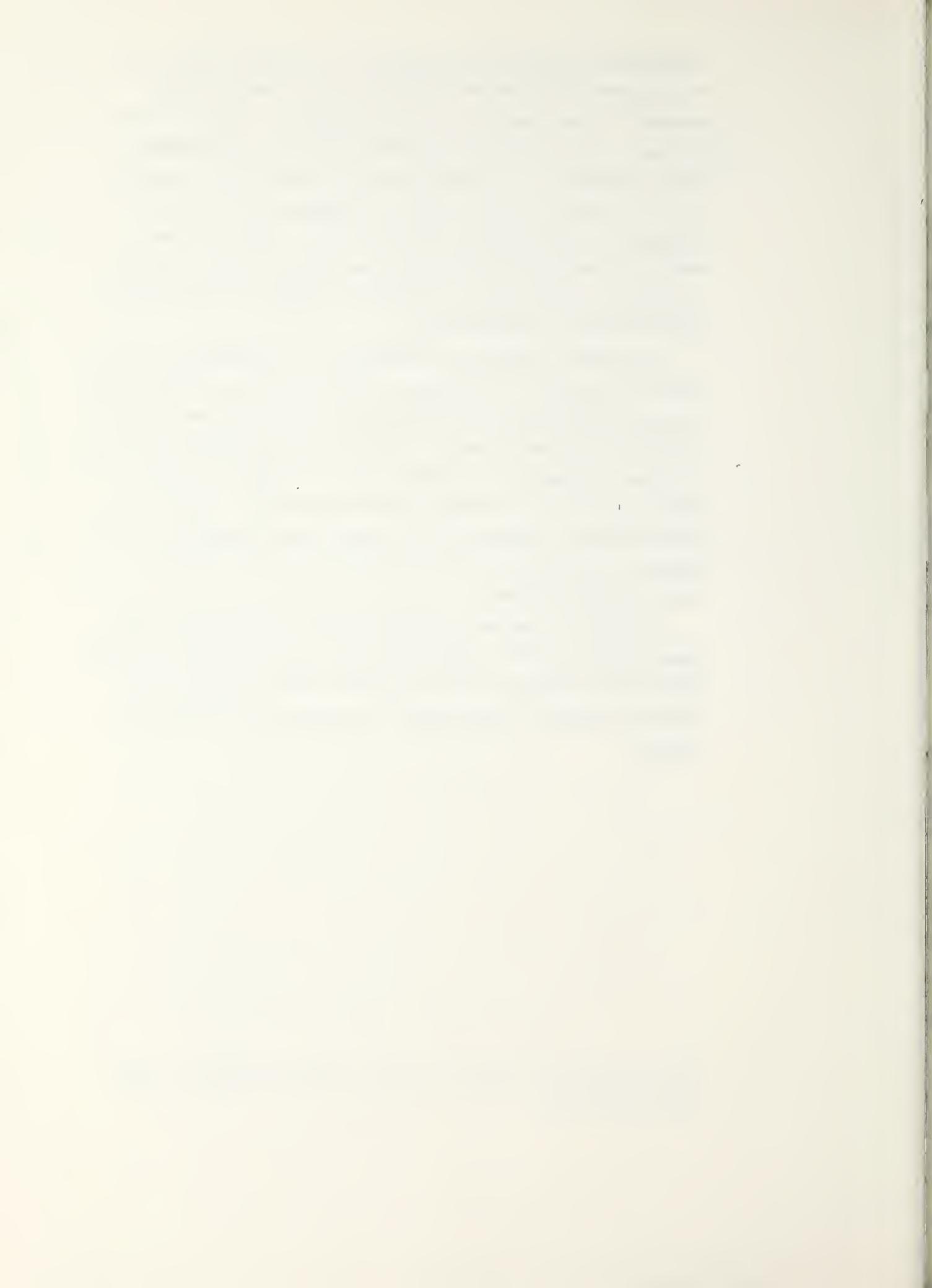
Water consumption within the water service area averages about 0.125 million gallons per day (mgd), with a maximum consumption of about 0.150 mgd. While the distribution system consists mainly of cast iron pipe, in recent years PVC pipe has been installed. The water distribution system contains 75,000 gallons of elevated storage. Fire flow

protection is provided throughout the corporate limit area of the water distribution system, and the Town actively pursues a cross-connection control program. The Town does maintain the distribution system but only on an as-needed basis. Because no disinfection of the water is practiced, no field sampling of the water is conducted by the Town personnel, although they do send a water sample once per month to the State's Division of Health Services Laboratory in Raleigh, North Carolina, where the sample is analyzed for bacteriological contamination.

The Town of Beulaville receives its finished water from two drilled wells, with depths of 396 and 412 feet and having a total combined pumping capacity of 400 gallons per minute. The two wells pump directly into the distribution system, and no water treatment or disinfection is provided. Both wells have provisions for emergency power operation in case of power failure. Both wells also have direct blow-offs at the wellhead, but the vents for the wells are not screened and/or elled downward.

Beulaville has not experienced any problems with their water supply. Water samples from the Beulaville distribution system have been analyzed for bacteriological contamination and the results of the analyses are shown on the following charts.

*from Division of Health Services, Eastern Regional Office,
April 20, 1977



NORTH CAROLINA DEPARTMENT OF HUMAN RESOURCES
 CHEMICAL ANALYSIS OF WATER
 Division of Health Services, Laboratory Section
 P. O. Box 28047, Raleigh, North Carolina 27611

Complete all items above Heavy Line
 (see instructions on reverse side)

Address of Owner
 Supply: TOWN OF BEULAVILLE

Address: PO BOX 98

BEULAVILLE NC 28518 Well No. _____

County: BELMONT

Report to: TOWN OF BEULAVILLE
 PO BOX 98

Address: BEULAVILLE NC 28518

Selected by: MORRIS STRICKLAND

Collected: 5-23-74 Time: 11:30 A.M.

Remarks:

Type of Supplier:	<input type="checkbox"/> 5-Association
<input checked="" type="checkbox"/> 1-Municipal	<input type="checkbox"/> 6-Industrial
<input type="checkbox"/> 2-Sanitary District	<input type="checkbox"/> 7-Institution
<input type="checkbox"/> 3-Mobile Home Park	<input type="checkbox"/> 8-Private
<input type="checkbox"/> 4-Community	<input type="checkbox"/> 9-Other

Source of Water:	<input type="checkbox"/> 1-Ground	<input type="checkbox"/> 3-Both
<input checked="" type="checkbox"/> 2-Surface	<input type="checkbox"/> 4-Purchased	

Source of Sample:	<input type="checkbox"/> 1-Well tap	<input type="checkbox"/> 2-House Tap
<input type="checkbox"/> 2-Treated	<input checked="" type="checkbox"/> 3-Distribution Tap	

Type of Sample:	<input type="checkbox"/> 1-Raw	<input type="checkbox"/> 2-Treated
-----------------	--------------------------------	------------------------------------

Type of Treatment:	<input type="checkbox"/> 0-None	<input type="checkbox"/> 5-Lime
<input checked="" type="checkbox"/> 1-Chlorinated	<input type="checkbox"/> 6-Soda Ash	
<input type="checkbox"/> 2-Fluoridated	<input type="checkbox"/> 7-Polyphosphate	
<input type="checkbox"/> 3-Filtered	<input type="checkbox"/> 8-Water Softener	
<input type="checkbox"/> 4-Alum	<input type="checkbox"/> 9-Other	

Analysis Desired:	<input type="checkbox"/> 1-Complete analysis (18 tests)
<input checked="" type="checkbox"/> 2-Partial analysis (9 tests)	

ANALYSIS

Conc. or or or	(000)	units	Ph	(00.0)	8.2
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Results in Parts per Million

Alkalinity CaCO ₃	(000)	136	Fluoride	(0.00)	0.20
Total Hardness	(000)	92	Arsenic	(*0.00)	<0.01
Iron	(*00.00)	0.08	Cadmium	(*0.00)	<0.01
Manganese	(*00.00)	<0.03	Chromium ⁺⁶	(*0.00)	<0.05
Cloudiness SiO ₂	(000)	0.11	Copper	(*00.00)	<0.05
Durity CaCO ₃	(000)	2	Lead	(*0.00)	<0.05
Chloride	(000)	2	Zinc	(*00.00)	<0.05
Sodium	(000)	15	CALCIUM		29.5
Kassium	(00.0)	5.9	MAGNESIUM		1.6

Date received 5-24-74 Date reported 5-31-74 Lab. No. 03357

**Department of Human Resources
Division of Health Services
Laboratory Section**

SUMMARY OF ANALYSES FOR 1977 WATER SYSTEMS SURVEY

Owner: Beulaville Unique Identifier 3 1 - 0 2 0

Date: 4/20/77 Time: 13:30 County: Duplin By Boney-Wiggine-Rimer

Sampling Point: Samples taken from tap outside pump house.

LABORATORY ANALYSES

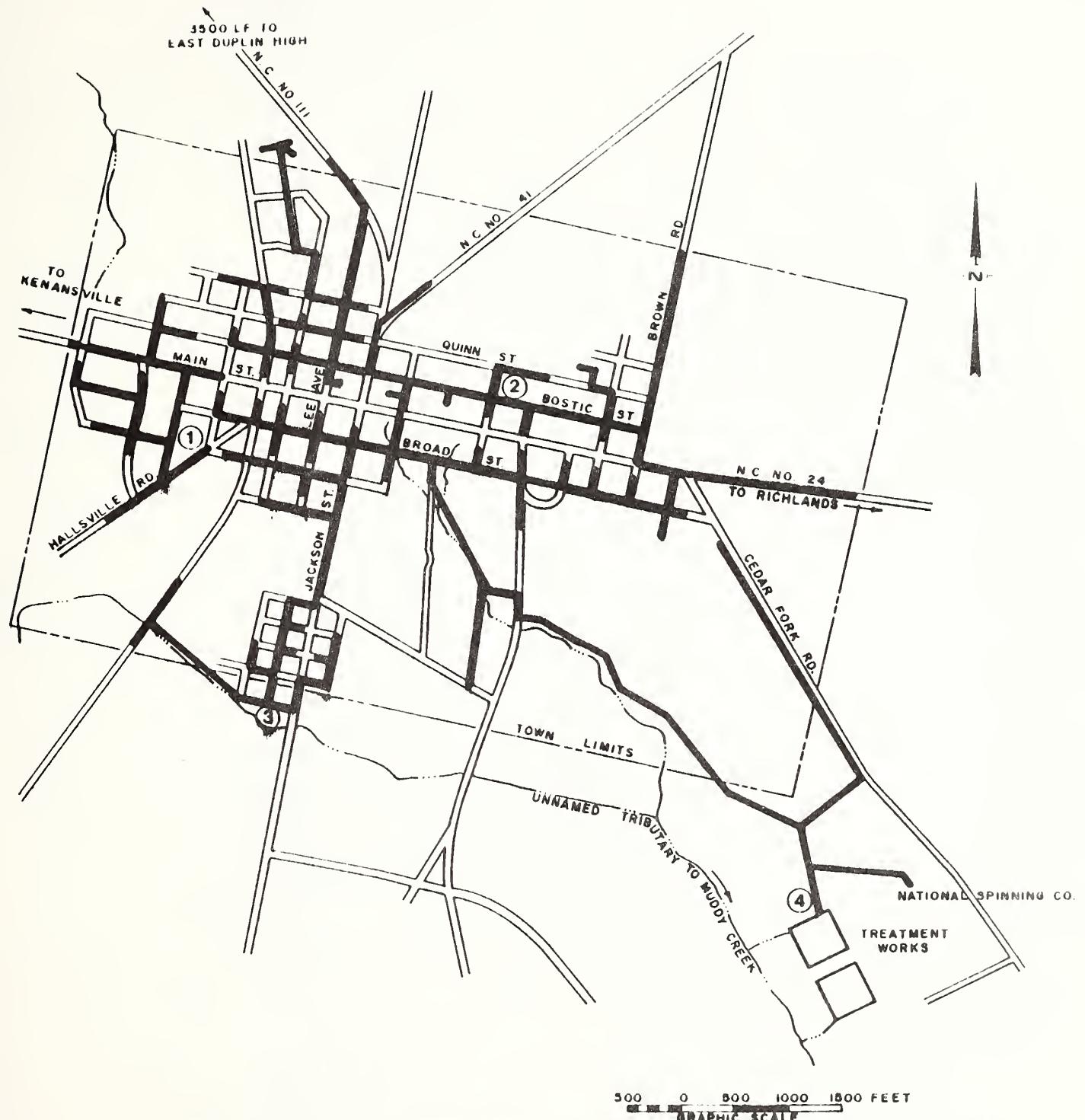
	<u>Result</u>	<u>Max Allowable</u>
Turbidity (On-site field test), N.T.U.	0.18	5.
Radiation Analyses (Laboratory # <u>770484</u>)		
Gross alpha, pCi/l	<u>0.0 ± 1.12</u>	15
Gross beta, pCi/l	<u>6.75 ± 1.71</u>	50
Coliform, MPN (Laboratory # <u>313077</u>)	<u><2.2 /100ml</u>	<u><2.2/100ml</u>
Inorganic Analyses (Laboratory # <u>01270</u>)	<u>mg/l</u>	<u>mg/l</u>
Arsenic	<u><0.01</u>	0.05
Barium	<u><0.10</u>	1.
Cadmium	<u><0.01</u>	0.010
Chromium	<u><0.05</u>	0.05
Fluoride	<u>0.14</u>	2.0-2.4
Lead	<u><0.05</u>	0.05
Mercury	<u><0.0002</u>	0.002
Nitrate (as N)	<u>0.03</u>	10.
Selenium	<u><0.01</u>	0.01
Silver	<u><0.01</u>	0.05
Turbidity (N.T.U.)	<u>0.10</u>	5.
Organic Analyses (Laboratory # <u> </u>)		
Endrin	<u> </u>	0.0002
Lindane	<u> </u>	0.004
Methoxychlor	<u> </u>	0.1
Toxaphene	<u> </u>	0.005
2,4-D	<u> </u>	0.1
2,4,5-TP Silvex	<u> </u>	0.01

Turbidity (in N.T.U.) on Raw Water



LEGEND
 ● WATER TANK
 ■ WELL PUMP
 — EXISTING WATER SYSTEM

EXISTING WATER SYSTEM
TOWN OF BEULAVILLE
DUPLIN COUNTY, NORTH CAROLINA



LEGEND

- ① HALLSVILLE ROAD PUMPING STA
 - ② BOSTIC STREET PUMPING STA
 - ③ LANIER STREET PUMPING STA
 - ④ TREATMENT WORKS PUMPING STA
- EXISTING SEWER SYSTEM

EXISTING SEWERAGE SYSTEM TOWN OF BEULAVILLE DUPLIN COUNTY, NORTH CAROLINA

*ii. Sewage System**

The wastewater collection system in Beulaville has approximately 54,000 linear feet of 6, 8 and 12-inch asbestos cement pipe. The average depth of the pipe is approximately 6 feet below ground surface.

The majority of the system (81%) was completed in 1963. The remaining 19 percent was built between 1967 and 1973. No major construction has taken place since that time. A map of the existing limits which the sewer system covers is included in the report.

The physical condition of the sewer system appears satisfactory. There have been problems in the past with deposits of mud and sand in manholes. There is some indication that there could be scattered root intrusion within the system. However, these problems are not considered serious and could be alleviated with proper maintenance.

The Town of Beulaville operates a secondary Treatment Facility which consists of two $3\frac{1}{2}$ acre oxidation lagoons. Both lagoons are located on the southeastern side of Town and were constructed in 1963. The stabilization lagoons used in Beulaville are frequently referred to as a facultative pond process. Facultative ponds are between three and eight feet deep. This depth allows two zones to develop: an aerobic surface zone, and an anaerobic bottom layer. Oxygen for aerobic stabilization in the surface layer is provided by photosynthesis and surface reaeration, while sludge in the bottom layer is anaerobically digested. Loadings generally range from 15 to 80 pounds BOD₅ per acre per day, and BOD₅ removal from 70 to 95 percent, depending on the concentration of algae in the effluent.

All wastewater from the sewer system drains to Plant Lift Station No. 4. The wastewater is then pumped to a gravity distribution box located between the two lagoons. The distribution box regulates the volume of flow discharged

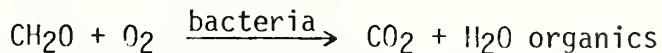
*from Beulaville 201 Wastewater Facilities Plan, November 1975, Wiggins-Rimer & Associates and Boney & Associates

to each of the two lagoons. The lagoons have a total storage volume of 6,600,000 gallons at an average water depth of three feet. The interior portion of the sloped embankment is skirted with concrete for erosion protection. The entire lagoon structure is made of impervious soils.

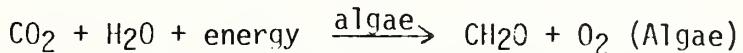
The effluent discharge structure at either end of the two lagoons consists of a concrete box, rectangular weir and discharge pipe. Chlorination or other forms of disinfection and/or treatment is not practiced. The effluent is discharged into an unnamed tributary of Muddy Creek.

With the stringent effluent quality limits developed as a result of the 303 Basin Plan for the Cape Fear River, the Beulaville wastewater treatment facility no longer complies with State effluent standards. The receiving stream has been reclassified from D to Class C swamp water with a water quality limited effluent restriction. The major problem of non-compliance for the existing facility is the presence of considerable amounts of organic nitrogen (algae) which is measured by Total Kjeldahl Nitrogen (TKN).

An algal-bacteria symbiosis operates in the facultative stabilization lagoons. Bacteria degrade organic matter according to the following simplified transformation:



Algae, in turn, reuse the carbon (as CO₂) to form algal-biomass:



While these equations oversimplify the transformation, they show the recycling of carbon in the ponds. Unless the algae are removed, or the carbon is removed through methane fermentation in the anaerobic sludge layer, only limited organic reduction occurs. Since the lagoon effluent for Beulaville does contain algae, and since algae contains a high concentration of organic nitrogen (measured as TKN), it is imperative that a high algal removal efficiency be

achieved prior to effluent discharge to the receiving stream. It is therefore necessary to further upgrade the existing treatment process to assure greatest removal efficiencies.

A structured stormwater sewer system does not exist in the Town of Beulaville. There are catch basins, located throughout the Town, which are connected to short sections of pipe to act as area drains. The storm water discharges eventually run off to various drainage ditches.

iii. Solid Waste Disposal Systems

Solid waste disposal for the Town of Beulaville is provided by the Duplin County Solid Waste Department. The majority of the Department's operational funds are derived from county taxes. Collection and transport of the solid waste to the county landfill located six miles south of Kenansville on S.R. 1918 is provided by Town employees.

iv. Transportation System

Four North Carolina Highways intersect Beulaville. N.C. Highway 24 runs east-west through Town, N.C. Highway 41 runs north-south through Town and N.C. Highways 241 and 111 run north and northwest, respectively.

Bus service is provided for the Town by Trailways Bus Line. It has six daily schedules.

The nearest commercial airport is the Onslow County Airport near Jacksonville, N.C. The airport has a 5,000-foot paved and lighted runway and can accommodate whisper jet service. The Duplin County Airport, located just twelve miles away in Kenansville as a 3,700-foot paved and lighted runway.

Seven regular and fifteen irregular motor freight carriers provide interstate and intrastate freight service.

v. Education Facilities

Duplin County operates a county-wide school system. Children in grades K-8 attend the Beulaville Elementary School which is located within the Town limits. The school

was constructed on a 12-acre site in 1946 with additions added in 1947 and 1948. This school has a capacity for 775 pupils and presently has an enrollment of 854 pupils. The condition of the facility is fair and with general repair work can be used for several more years.

East Duplin High School is located on a 44-acre site just northwest of the Beulaville Town limits. The school was constructed in 1962 with an addition in 1962. The facility has a capacity of 850 pupils and a current enrollment of 869 pupils.

James Sprunt Institute, a technical education center is located 12 miles away in Kenansville. The Institute offers industrial, vocational and academic courses.

vi. Recreation Facilities

Recreation facilities for the Town of Beulaville are quite limited - consisting of a municipal park and school playground. The municipal park, located on about 2 acres of land on Park Street has tennis and basketball courts. The school playground/ballfield is available for public use on weekends and during the summer.

vii. Cultural Facilities

Among the civic and cultural organizations serving the Beulaville area are the Lions, Ruritans, Garden Clubs, Woman's Club, Music Club, Masonic Lodge and Eastern Star. The Tar Heel Fine Arts Society serves the entire county and offers several cultural programs every year. There are seven churches in the community which represent most faiths.

viii. Public Safety Facilities

The Beulaville Police Department consists of 2 full-time policemen and 1 police chief. One policeman is on duty or on call at all times. The department has 3 police cars.

Fire protection is provided by the Beulaville Volunteer Fire and Rescue Squad which has forty members. Fire fighting equipment consists of a 1954 Ford pumper with a 500 gallon per minute pump capacity, a 1964 Ford pumper with a 500 gallon per minute pump capacity and a 1975 Ford pumper with

a 750 gallon per minute pump capacity.

ix. Health Care Facilities

Health services in Duplin County are provided by three institutions. Duplin General Hospital is a county-owned 105 bed hospital providing medical care to citizens of Duplin County. The Duplin County Health Department and Duplin County Mental Health Clinic offer varied programs ranging from TB skin tests to psychological treatment. The County has fourteen doctors, five dentists, and one resident psychologist plus other medical specialists.

x. Social Welfare Facilities

Beulaville's social welfare facilities are provided by the Duplin County Department of Social Services whose office is in Kenansville. There are forty permanent employees and seven public service volunteers working with the agency. Employees are categorized as follows:

<u>Number</u>	<u>Description</u>
7	Public Service
8	Clerical
18	Eligibility Determination
10	Social Workers
1	Janitorial Worker
2	Homemakers
1	Director

Services provided by the Department follow these basic categories: Financial Assistance programs, Service programs, and the IV-D program. Financial Assistance includes a) Aid for Families with Dependent Children, b) Medical Assistance, c) Food Stamps, and d) Special Assistance for Adults. Service programs include a) Protective Services, b) Foster Care, c) Adoptions, d) Aid to Families with Dependent Children Services, e) WIN (work incentive), f) Homemaker Services, g) Nursing and Boarding Home Placement, h) Supervision of Adult Boarding Homes, i) Supervision of Foster Homes, j) Work Certificates, k) Clothing Closet, l) Eye Care, m) Maternity Home Care, n) Family Planning, and o) Title XX, the Federal funding base for all social services.

xi. Government Administration Facilities

Beulaville has a mayor-council form of government with five Town Council members. The Councilmen serve staggered four-year terms - the Mayor and 2 council members are elected two years following. A Town Supervisor is appointed by the Town Council.

B. SOCIAL AND CULTURAL CONSIDERATIONS

1. Population Trends

Beulaville was incorporated in 1917. Every census record since that time has found the population of Beulaville to increase.

TABLE 5. POPULATION TRENDS - BEULAVILLE

Year	1930	1940	1950	1960	1970
Population	494	567	724	1,062	1,156
% Increase		+15%	+28%	+46%	+9%

While Beulaville's population has been increasing, the population of Duplin County as a whole has been decreasing. This applies to the counties immediately surrounding Duplin County also. The population of the surrounding counties has decreased with the exception of Wayne and Onslow Counties. Both of these counties have a military base within their boundaries.

TABLE 6. POPULATION TRENDS - SURROUNDING COUNTIES

	1930	1940	1950	1960	1970
Duplin Co.	35,103	39,739	41,074	40,270	38,015
Pender Co.	15,686	17,710	18,423	18,508	18,149
Onslow Co.	15,289	17,939	42,047	82,706	103,126
Jones Co.	10,428	10,926	11,004	11,005	9,779
Lenoir Co.	35,716	41,211	45,953	55,276	55,204
Wayne Co.	53,013	58,328	64,267	82,059	85,408
Sampson Co.	40,032	47,440	49,780	48,013	44,954

2. Population Characteristics

The total population for the Town of Beulaville is 1,156 according to the 1970 census. Fifty-three percent (611) of the total population is female and 47% (545) is male. The median age of all persons within the Town is 29.6. 32.4% of the population is below the age of 18; 9.7% of the population is 65 or over. A breakdown of the population by race finds that 1,029 of the total population is white, 124 is black, and there are 3 in the other category.

There are a total of 388 households in Beulaville. Ninety percent (349) of the households are white and 10% (39) are black. The average number of persons per household is 2.98. The average number of persons per black households is 3.26.

Tables of the total population by age, sex and race follow:

TABLE 7. POPULATION (BY AGE AND SEX)

Males		Females	
<u>Age</u>	<u>Number</u>	<u>Number</u>	<u>Age</u>
Under 5 yrs.	42	37	Under 5 yrs.
5	11	12	5
6	14	12	6
7 - 9	36	29	7 - 9
10 - 13	39	44	10 - 13
14	6	13	14
15	12	10	15
16	16	11	16
17	14	13	17
18	6	7	18
19	10	14	19
20	6	10	20
21	7	6	21
22 - 24	26	31	22 - 24
25 - 34	82	78	25 - 34
35 - 44	64	79	35-- 44
45 - 54	63	66	45 - 54
55 - 59	21	35	55 - 59
60 - 61	5	14	60 - 61
62 - 64	15	24	62 - 64
65 - 74	40	45	65 - 74
75 & Over	10	21	75 & Over
Total	545	611	Total

TABLE 8. POPULATION BY RACE

White	1,029
Black	124
Indian	0
Other	3

3. Population Projections

To effectively plan for future development, an assumption must be made as to the projected number of people that will live in the area. This is necessary in order to effectively estimate demands on community facilities such as water and sewer, schools, recreation facilities, etc. and to estimate future land needs.

A projection of future population can be made based on past growth carrying over to future trends, providing there are no unforeseeable developments. Long range predictions are less reliable than shorter term projections.

For this report, OBERS Series E Population Projections will be used. For Duplin County, the projections are available by township only, but some conclusions as to Beulaville's future population can be reached by using the township data. Beulaville is located in Limestone Township for which the following data is available:

TABLE 9. POPULATION PROJECTION

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Limestone Township	4696	4760	4920	5030
Beulaville	1156	1190	1230	1257

4. Historic Structures and Sites

There are no historic structures or sites in Beulaville listed in the Federal Register and there are no potential historic sites in Beulaville.

5. Archaeological Sites

There is no evidence of any archaeological digs present within Beulaville, nor are there any proposed digs for the area.

C. ECONOMIC CONSIDERATIONS

1. Regional Influences

There are no federal or state activities in the area that would significantly influence the economic development of Beulaville. Beulaville is located in an agricultural area, in which it serves as a trading center. This situation is expected to continue with Beulaville becoming even more important to local farmers as a service area to buy farm supplies.

2. Employment

Since there are no employment figures available for Beulaville, Duplin County figures will be used. The following table compares the 1977 Duplin County unemployment rate with that of the State as a whole.

TABLE 10. UNEMPLOYMENT RATE (1977)

<u>Month</u>	<u>North Carolina</u>	<u>Duplin County</u>
January	7.5 %	13.1 %
February	6.9	10.4
March	6.7	11.0
April	6.0	8.7
May	5.6	7.1
June	6.1	6.9
July	6.6	7.9
August	5.3	6.1
September	5.1	6.7
October	4.9	7.6
November	5.3	6.6
December	5.0	6.4
Average Annual	5.9	8.1*

*Based on a work force of 17,610 and 1,430 unemployed.

Source - Employment Security Commission of North Carolina.

3. Occupations

The following tables list the workers in Beulaville 14 years old and older by occupation and industry.

TABLE 11. EMPLOYED PERSONS BY OCCUPATION

<u>Occupation</u>	<u>Number</u>
Professional, Technical & Kindred Workers	70
Farmers & Farm Workers	5
Managers, Officials and Proprietors Except Farm	66
Clerical & Kindred Workers	72
Sales Workers	18
Craftsmen, Foremen & Kindred Workers	106
Operatives and Kindred Workers	81
Service Workers including Private Household	58
Farm Laborers & Foremen	4
Laborers Except Farm and Mine	14
Total	498

TABLE 12. PERSONS EMPLOYED BY INDUSTRY

<u>Industry</u>	<u>Number</u>
Construction	87
Manufacturing	108
Durable Goods	4
Transportation	12
Communications, Utilities & Sanitary Services	10
Wholesale/Retail Trade	107
Finance, Insurance, Business & Repair Service	31
Professional & Related Services	15
Educational Services	45
Public Administration	32
Other Industries	47
Total	498

Source - North Carolina Census Data (1970)

4. Labor Force

Beulaville is located in a predominately rural area. It is estimated that within a 25 mile radius of Beulaville there are approximately 4,800 persons available for technical training or for jobs in industrial plants.

5. Wages and Income

The following tables compare the 1970 Beulaville family income with the State family income.

TABLE 13. BEULAVILLE FAMILY INCOME

<u>Income</u>	<u># of Families</u>	<u>Percent</u>
Under \$1,000	0	0 %
\$1,000 - \$1,999	17	5.67
\$2,000 - \$2,999	20	6.67
\$3,000 - \$3,999	10	3.33
\$4,000 - \$4,999	31	10.33
\$5,000 - \$5,999	30	10
\$6,000 - \$6,999	10	3.33
\$7,000 - \$7,999	11	3.67
\$8,000 - \$8,999	52	17.33
\$9,000 - \$9,999	29	9.67
\$10,000 - \$11,999	39	13
\$12,000 - \$14,999	23	7.67
\$15,000 - \$24,999	22	7.33
\$25,000 - \$49,999	6	2
\$50,000 and Over	0	0
<hr/>		
Total	300	100 %

TABLE 14. STATE FAMILY INCOME

<u>Income</u>	<u># of Families</u>	<u>Percent</u>
Under \$1,000	44,261	3.35 %
\$1,000 - \$1,999	70,387	5.45
\$2,000 - \$2,999	73,829	5.72
\$3,000 - \$3,999	84,018	6.5
\$4,000 - \$4,999	92,497	7.16
\$5,000 - \$5,999	103,764	8.04
\$6,000 - \$6,999	100,328	7.77
\$7,000 - \$7,999	100,193	7.75
\$8,000 - \$9,999	187,374	14.5
\$10,000 - \$14,999	287,562	22.2
\$15,000 - \$24,999	116,238	9.0
\$25,000 and Over	32,015	2.49
<hr/>		
Total	1,292,466	100 %

On the State level 51.7% of the total families have incomes \$7,000 to \$7,999 and below while 48.3% have incomes \$8,000 and above. In Beulaville, 43% of the total families have incomes of \$7,000 to \$7,999 and below while 57% have incomes of \$8,000 and above.

6. Economic Potentials and Projections

Beulaville is situated in an agricultural area. Most of the employment opportunities in and around the Town are agriculturally oriented. However, two new industries, Beulaville Garment Company and National Spinning Company, have recently located in the area. These two new industries have created over 100 new jobs for residents.

Duplin County's economy is expected to rely heavily upon agriculture in the future, just as it has in the past. Duplin County is the State's leading agricultural county. Over 162,325 acres of land in the County are classified as cropland and pasture. This amounts to 34 percent of the total land area in the County. The poultry-turkey business is quickly growing in the County. Beulaville could benefit from the County's agricultural and poultry base by locating food processing plants and agricultural related firms within the Town.

There is an abundance of land in and around Beulaville for industrial expansion. The Town is easily accessible by highway. Four North Carolina highways go through the Town. Water is plentiful. However, Beulaville's sewage treatment facility would need to be upgraded to accomodate industrial expansion. The population of Beulaville increased by 9% from 1960 to 1970, hence the labor force should be adequate to handle increased economic activity.

Both Beulaville and Duplin County (Beulaville Development Corporation and Duplin Development Commission) are actively recruiting new industry to locate in the area and trying to expand the existing industries.

7. Land Ownership and Tract Size Patterns

There is no lot line map available for the Town of Beulaville, but from observing the existing land use map assumptions as to tract size patterns can be made.

From Cavenaugh Street north to Quinn Street and from Kennedy Street east to Brown Street is where the concentration of residential and commercial establishments are located. This

area has small lot sizes. The area within the Town limits encompassing the above mentioned area is divided into much larger tracts with a majority of the land in the southeastern and southwestern portion of the Town devoted to agriculture.

III. GOALS, OBJECTIVES AND EVALUATION CRITERIA

A. BROAD GOALS

A goal is defined as a desired future condition. The following goals which have been formulated for the Town of Beulaville are based upon the attitudes expressed by the residents of Beulaville as to the future condition they would like their town to attain. These goals and the objectives which follow shall be the basis for land development within the Town.

These goals can assist elected officials, town administrators and private citizens in making decisions guiding present and future development.

Goals

- Encourage desirable forms of growth and change which promote a desirable living environment by guiding the location of new development and the delivery of public services.
- Provide adequate shopping facilities by preserving and expanding the present Central Business District.
- To assure that all citizens regardless of race, sex, religion or national origin have equal opportunity in housing, employment, social, educational, recreational, political and economic opportunity.
- Encourage new industry to locate in the area by designating ample space for industrial development which has good highway access and which can be served by necessary utilities.
- Provide parks and recreation facilities to meet the recreational needs of the Town's citizens.
- Provide adequate street and highway system to serve existing and future development.

B. ANNUAL OBJECTIVES

The following annual objectives shall be pursued in order to maintain the plan as a continuous tool for guiding growth.

First Year (1978-1979)

- Enforce a zoning ordinance to protect existing development and guide new development.

- Encourage new residential development in existing neighborhoods or in areas which are easily and economically served by the Town's urban services.
- Encourage programs to improve deteriorated neighborhoods and substandard housing.
- Broaden the range of housing types available in Beulaville.
- Encourage new retail establishments to locate in the Central Business District in order to continue the centralized location of shops and services.
- Encourage existing establishments located in the Central Business District to improve the appearance of their building if in need of repair and remain in the Central Business District.
- Adequate space for industrial development should be set aside. These sites should have good highway access and necessary utilities or a plan for furnishing utilities.
- Acquire land to be used for parks and develop recreational facilities.
- Encourage cooperation between the school system and the Town for use of school recreational facilities during summer months.
- Pave dirt streets in existing neighborhoods.
- Conduct a study of the Town's facilities and services.
- Upgrade the Town's facilities and services in order to promote sound development.
- Cooperate with Duplin County in enforcing minimum building codes.
- Provide adequate drainage for the Town.

Second Year (1979-1980)

- Adopt and enforce subdivision regulations.
- Repeat procedures outlined for first year.
- At the end of the year, evaluate the progress which has been made toward reaching the Plan's goals.
- If necessary, make changes needed to reach goals.

Third Year (1980-1981)

- Repeat procedures outlined for the second year.

C. EVALUATION CRITERIA

In order to measure progress which has been made toward achieving the goals and objectives set forth in the Land Development Plan, channels should be developed through which the Town's land use programs and policies can be periodically evaluated. Ideally, this evaluation process should be undertaken on an annual basis and would involve assimilating materials such as building permits, code enforcement records, maps of structures constructed/demolished/renovated, records of utility extensions, petitions for zoning changes, etc. and measuring these against the objectives and policies outlined in the Land Use Element Plan. The analysis of this data should be undertaken in the form of a report to Town Council and should clearly state: a) land use needs which have been addressed during the year; b) land use needs which remain; and c) any major alterations or proposed alterations in the land resources and land use of the community which have occurred subsequent to the last yearly report. Through a well-defined process of evaluation, the Town will be better informed of its present position and will be more solidly equipped to devise land use strategies for the future.

IV. CRITERIA AND STANDARDS

There are several programs which can be set up to ensure that the goals and objectives which have been formulated for Beulaville will be met. The first of these is the enforcement of a zoning ordinance. The zoning ordinance can be a very beneficial tool for ensuring that the different land uses within a town are situated properly in relation to one another. It can also provide adequate space for all types of development and control the density of development.

Subdivision regulations are also important for guiding growth. They ensure that proper design standards for newly developed areas are met and that necessary improvements (such as water and sewer, paved streets, etc.) are provided.

Cooperation is needed between Beulaville and the Duplin County Inspection Department for enforcing a building code. Beneficial results from such a cooperation would be proper, energy saving construction requirements for new residences, removal of vacant, dilapidated structures and a program to upgrade substandard housing conditions.

V. PLAN FORMULATION

A. FUTURE LAND REQUIREMENTS

The North Carolina Land Classification System has been used by Beulaville to identify in general terms the future use of all land within its jurisdiction. The system contains five classes of land: developed, transition, community, rural and conservation. The land classification system allows a variety of detailed land uses such as residential, commercial, industrial, recreational, etc., to occur within each class.

Developed - Lands where existing population density is moderate to high and where there are a variety of land uses which have the necessary public services.

Transition - Lands where local government plans to accommodate moderate to high density development during the following ten year period and where necessary public services will be provided to accommodate that growth.

Community - Lands where low density development is grouped in existing settlements or will occur in such settlements during the following ten year period and which will not require extensive public services now or in the future.

Rural - Lands whose highest use is for agriculture, forestry, mining, water supply, etc., based on their natural resources potential. Also, lands for future needs not currently recognized.

Conservation - Fragile, hazard and other lands necessary to maintain a healthy natural environment and necessary to provide for the public health, safety, or welfare.

To qualify for the developed category, the minimum gross population density should be 2,000 people per square mile. Beulaville falls short of this figure, however we will consider the center of town as being developed. The remainder of town will be categorized as transition.

In order to project land needs more precisely, specific land use classification must be used. As indicated by the existing land use map, most of the land within the Beulaville Town limits is categorized as

Vacant/Agriculture. The Town has ample room for growth. The desire for the town to maintain its present character has been expressed by its citizens. Therefore, it would seem appropriate to encourage development in the undeveloped areas in the same proportions as in the developed areas.

The future land needs for the Town of Beulaville in 1980 is based on the projected population growth of the Town from 1970 to 1980. The persons per acre for each land use category is multiplied by the increased population for the ten year period (34) to arrive at the amount of additional land needed for each category in 1980. The following chart indicates the required amount of land to meet the 1980 projected population needs.

TABLE 15. 1980 LAND DEMANDS

<u>Land Use Category</u>	<u>Existing</u>	<u>Projected</u>
Residential	101.49 Ac.	3 Ac.
Trade	20.09 Ac.	.6 Ac.
Manufacturing	5.3 Ac.	.2 Ac.
Service	21.79 Ac.	.7 Ac.
Recreation	2.31 Ac.	.07 Ac.
Transportation, Communication and Utilities	82.15 Ac.	*

*Existing acreage for Transportation, Communication and Utilities considered adequate for future growth.

Of the 542.23 acres of Vacant/Agriculture land available for development, only 4.5 acres is estimated as necessary to accommodate the projected 1980 population.

B. PATTERN INTENSITY AND TIMING OF LAND USE

The existing seven categories of land use within Beulaville are expected to continue and grow. This plan seeks to achieve a land use pattern which is compatible with existing development and makes efficient use of the Town's available services.

Residential Land Use

Residential land use accounts for 13.4% of the total land area in Beulaville and 41% of the developed land area. The residential

category is subdivided into single family residential (13%) and multifamily residential (.4%). Duplex houses account for all the dwellings listed in the multifamily category. The duplexes are scattered throughout the Town and many are in need of repair. More duplex houses are needed, an alternative or in addition to duplex houses, town houses or garden apartments could be constructed to offer variety in housing. They could also be an alternative to buying a house and offer initial housing for young married couples.

There is much land available for residential development. There are many vacant lots among the already developed areas which should be used before developing the outlying areas. This would conserve energy by concentrating development around existing facilities.

In addition to construction of new and variety housing, emphasis should be placed on the rehabilitation of the existing housing stock. A neighborhood fix-up-clean-up campaign should be initiated by Town officials or garden club, etc. to improve existing housing conditions. Those houses not suitable for rehabilitation should be removed. If occupied at time of demolition, the occupants, either renters or owners, should seek assistance in acquiring new shelter. Assistance for replacement of demolished homes should be sought through the Farmers Home Administration 502 Housing Program. Low income rental units should be available for those not wishing or unable to own their own homes.

Trade and Services

Trade and Services combined comprise about 5.5 acres of land within Beulaville. Beulaville's Zoning Ordinance allows for "General Business Zone" development all along N.C. Highways 41 and 24 which dissect the Town. The Central Business District is located along Main Street (N.C. Highway 24) from Thomas to Wilson Street with other commercial activity scattered along N.C. 24 and 41. Rather than continuing to allow business to locate along the two highways, the Town should encourage new businesses to locate in the Central Business District. The Central Business District could be extended to include Bostic Street from Jackson to Wilson Street. Centralizing shopping facilities in this manner would allow for more

convenience for the shopper, plus allow traffic to move more freely along the two highways. Space could be allocated throughout the Town for neighborhood commercial areas.

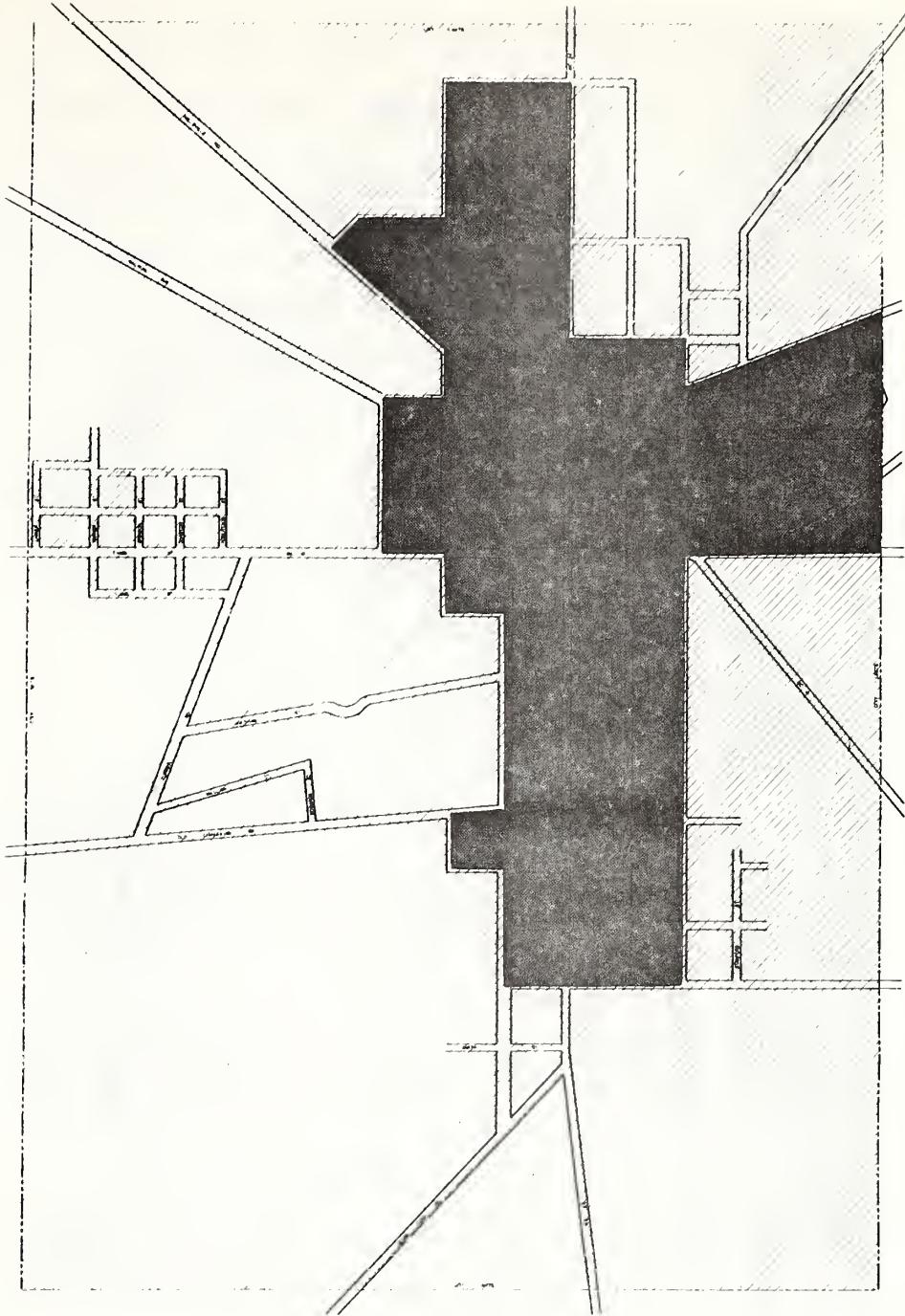
Manufacturing

There are 5.3 acres of land devoted to manufacturing within the Town Limits. The land designated for future industrial growth is located around the existing industrial sites along Railroad Avenue and N. C. 41. Both areas are in a generally undeveloped area and they have access to good transportation and necessary utilities.

Recreation

Beulaville has one municipal park located on Park Street in the northeastern quadrant of Town. It is available for use by all of the residents of Town, however those in the eastern section of Town have better access to the park. Another park, comparable to that on Park Street should be located in the western section of Town to better serve those residents.

The public has use of the Beulaville Elementary School playground and ballfield on weekends and during the summer. If the Duplin County Board of Education should ever close or relocate the Beulaville school, the Town should acquire the land for its own use.



BEULAVILLE
NORTH CAROLINA

LAND CLASSIFICATION

	DEVELOPED
	TRANSITION

C. COMMUNITY FACILITIES DEMAND

Using the 1980 projected population of 1190 people, most of the community facilities provided by the Town will be adequate to meet the projected needs.

The water system will be capable of providing the required volume of water to meet the needs of the expected population. Two deep wells provide Beulaville with adequate water supply for both residential and industrial use. The underground water supply is almost unlimited and additional deep wells can be drilled as needed.

The existing wastewater treatment facility will not be capable of handling future growth within the Town. A "201" Wastewater Facilities Plan has been prepared for the Town by a consulting engineering firm. The report proposed five alternative plans for achieving the best practical wastewater treatment. Alternative plan C was recommended. Alternative C proposes to upgrade the existing stabilization ponds to aerobic lagoons and add ponded sand filters for effluent polishing. The estimated cost to upgrade the present system under plan C is \$471,000 - subject to change.*

Fire protection provided by the Voluntary Fire Department is deemed adequate for future growth. The fire department recently acquired a new Ford Pumper with a 750 gallon per minute pump capacity. The Town's insurance rating is NBFU-8.

The other basic services provided by the Town, such as police, sanitation, etc. are not as expensive as water and sewer and service levels can be expanded as the population grows without necessitating any great cost factors.

* "201" Wastewater Facilities Plan, Wiggins-Rimer and Associates - Boney and Associates.

VI. IMPLEMENTATION

The pattern for growth outlined in this plan indicates that future development should occur in the available spaces in the developed areas. It should be the Town's policy to encourage growth in these available areas before allowing development in the outskirts.

There are several methods which the Town can use to regulate development.

Zoning

The Zoning Ordinance is important in shaping land development. Zoning helps to assure that land uses are properly located with respect to one another, sufficient land is available for each type of use and that the density of development is suitable for the community facilities available and to the natural features of the land.

Beulaville's Zoning Ordinance allows for strip commercial development along N.C. Highways 24 and 41. The Zoning Map should be amended to encourage more centralized commercial development.

Subdivision Regulations

Subdivision regulations are also important for guiding growth. Subdivision regulations are a means of insuring that new development meets proper design standards. They also insure the Town officials and prospective owners that certain improvements such as water, sewer, and paved streets will be provided.

Planning Board

A Planning Board should be established to assist Town officials in guiding and regulating development. The Planning Board should be responsible for making recommendations concerning zoning and the zoning map. They should also be responsible for the preparation of subdivision regulations.

VII. COORDINATION

The Town of Beulaville has tried to coordinate its Land Development Plan with the Comprehensive Land Development Plan prepared for North Carolina Multi-County Planning Region "P" (which includes Duplin County) by the Neuse River Council of Governments. Beulaville should further seek consistency with national, State, regional and local government policy by encouraging review of all proposed land-use projects. The Town should expand this process to include all projects and programs through solicitation of advice, review and comments from boards, agencies, private developers, governmental policymakers and all interested individuals. Input from the public should be sought.

VIII. ASSESSMENTS

A. ENVIRONMENTAL ASSESSMENT

1. Summary of Proposed Plans

Beulaville has formulated goals and objectives to guide future growth. A summary of those goals are:

- Encourage desirable forms of growth and change.
- Provide adequate shopping facilities.
- Assure equal opportunity regardless of race, sex, religion or national origin.
- Encourage new industry to locate in the area and provide them with adequate space and utilities.
- Provide recreational opportunities for all citizens.
- Provide adequate street and highway systems.

2. Environmental Impact (beneficial or adverse) of Proposed Plans

The proposed plans would provide for more efficient use of the land within the Town limits plus provide a better living environment for the citizens who reside there. However, there may be some adverse impacts from industries locating in the area. But, due to the comprehensive and stringent nature of State and Federal environmental regulations listed under #9 below, most of these impacts would be minimized. A serious source of potential conflict does exist between selected industrial sites and other land uses. However, this conflict can and will be minimized through the land use planning process and the application of zoning and subdivision ordinances.

3. Unavoidable Environmental Effects

With increased development there are nearly always unavoidable environmental effects. These include: destruction of trees and vegetation to accommodate new structures and altering of drainage from excavation and clearing.

4. Alternatives

The only possible alternative to the proposed plans would be a no-growth plan. A no-growth plan must assume that existing economic and social conditions are at a satisfactory

level and that further growth could not occur without degrading environmental values that would result in a net loss in living quality. Statistics and discussions with Town officials indicate that social-economic conditions are below the expectations of most citizens and that with appropriate planning and control these conditions can be raised through implementation of the proposed plans and goals.

5. Short-Term Uses vs. Long-Term Productivity

As stated previously the proposed plan will lead to some short-term adverse environmental impacts, but in the long run they will guide and allow for orderly growth. The long-term benefits far outweigh the short-term problems that will arise and will provide for a better living environment.

6. Irreversible and Irretrievable Commitment of Resources

The only resources that would be irreversibly committed would be those lands developed for residential, industrial or recreational purposes. However, the net benefit to the Town will be positive if all land use controls and plans are followed.

7. Applicable Federal, State, and Local Environmental Controls

In addition to NEPA, the Federal environmental controls that would be most applicable to land use activity in Duplin County would be the following:

Fish and Wildlife Coordination Act of 1958 (16 USC 662)
Clean Air Act (42 USC 1857)
Federal Water Pollution Control Act (PL 92-500)
National Historic Preservation Act of 1966 (16 USC 470)
Federal Insecticide, Fungicide, and Rodenticide Act (PL 92-516)
Noise Control Act of 1972 (PL 92-574)
Rivers and Harbors Act of 1899 (33 USC 401-413)

In addition to the State Environmental Policy Act, the most applicable controls would be all of the powers granted by Chapter 153A, Article 18 - "Planning and Regulation of Development" of the North Carolina General Statutes. Other applicable state laws are the Land Policy Act of 1974, Sedimentation Pollution Control Act, Sanitary District Zoning

Act, and the Commission on Health Services "Septic Tank Regulations".

6. Applicable Federal, State, and Local Controls

Federal

National Historic Preservation Act of 1966 (PL 89-665)

Executive Order 11593 (16 USC 470 (Supp. 1, 1971))

National Environmental Policy Act of 1969 (PL 91-190)

Archeological and Historic Preservation Act of 1974
(PL 93-291)

Procedures for the Protection of Historic and Cultural Properties (86 CFR 800)

State

Protection of Properties on the National Register (G.S. 121-12(a))

State Environmental Policy Act

Indian Antiquities (G.S. 70.1-4)

Salvage of Abandoned Shipwrecks and Other Underwater Archeological Sites (G.S. 121.3)

Salvage in Highway Construction (G.S. 136-42.1)

B. HISTORIC PRESERVATION ASSESSMENT

1. Summary of Proposed Plans

Beulaville has formulated goals and objectives to guide future growth. A summary of those goals are:

- Encourage desirable forms of growth and change.
- Provide adequate shopping facilities.
- Assure equal opportunity regardless of race, sex, religion or national origin.
- Encourage new industry to locate in the area and provide them with adequate space and utilities.
- Provide recreational opportunities for all citizens.
- Provide adequate street and highway system.

2. Impact (beneficial or adverse) of Proposed Plan

There are no historic structures or sites listed in the National Register, nor are there potential historic sites on the study list. Any historic sites or buildings which may appear in the future would be enhanced and protected by the Land Development Plan.

3. Adverse Impacts

The only adverse impacts would be the destruction of sites or buildings for new development. However, there are none known at this time. If at any time, there are historical sites or structures within the Town, efforts should be made to preserve them.

4. Alternatives

Any other policy would have a negative effect on historic preservation.

5. Impact of Long-Term Maintenance of National Register Properties

Both the long-term and short-term effects will be to maintain and enhance National Register properties.

DATE DUE

MAR 29 1999

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